



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/766,730	01/22/2001	Claudio L.K. Lins	6289	1305

22922 7590 01/10/2006

REINHART BOERNER VAN DEUREN S.C.
ATTN: LINDA KASULKE, DOCKET COORDINATOR
1000 NORTH WATER STREET
SUITE 2100
MILWAUKEE, WI 53202

EXAMINER

CHORBAJI, MONZER R

ART UNIT

PAPER NUMBER

1744

DATE MAILED: 01/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/766,730

Applicant(s)

LINS, CLAUDIO L.K.

Examiner

MONZER R. CHORBAJI

Art Unit

1744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This non-final office action is in response to the amendment received on 12/05/05

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1-5, 9, 11-13, 15 and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Rabe et al (U.S.P.N. 6,531,142).

With respect to claim 1, the Rabe reference discloses a substantially non-aqueous electrostatically dispensable composition (abstract, lines 1-2 and col.5, lines 56-60) that includes an alcohol solvent in combination with a glycol (col.5, lines 14-17 and lines 51-53) solute such that within the disclosed range, the glycol component is capable of being the solute while the alcohol component is the solvent. The combination of the alcohol and the glycol has an inherent initial conductivity and an essential oil

(col.9, line 27) as the conductivity control component. The essential oil present in an amount that is inherently capable of reducing the initial conductivity (col.4, lines 28-30 and col.9, line 27 and lines 40-42).

With respect to claim 9, the Rabe reference discloses a substantially non-aqueous composition (col.5, lines 56-60) that includes the following: a glycol component present in the range from about 2% weight to about 90% weight (col.5, lines 14-17 and lines 51-53), an alcohol component present in the range from about 2% weight to about 90% weight (col.5, lines 14-17 and lines 51-53) and a conductivity control component present from about 0.5% weight to about 20% weight (col.4, lines 28-30 and col.9, line 27 and lines 40-42). The conductivity control component of the Rabe reference is inherently capable of providing a conductivity value and/or values that fall within or overlap with the conductivity range recited in claim 9, because the concentration range of the conductivity control component of the Rabe reference overlaps with the conductivity control component range featured in claim 9. The specification on page 4, lines 6-22, teaches that a composition having an alcohol component in the range about 10 weight percent to about 80 weight percent in combination with a glycol component result in the formation of an azeotropic mixture upon addition of water. On the same page the specification further teaches that determining the amount of water is a matter of routine experimentation. The Rabe reference teaches a composition having an alcohol component concentration range that encompass the range disclosed on page 4 of the specification. In addition, the Rabe reference teaches adding a glycol agent along

Art Unit: 1744

with water (col.5, lines 51-53 and lines 56-60). Clearly, the Rabe's composition is inherently capable of forming an azeotropic composition just like the instant claims.

With respect to claim 13, the Rabe reference discloses a system for electrostatic delivery (col.12, lines 56-67 through col.14, lines 1-10) of an antimicrobial composition (col.5, lines 56-60) that includes a glycol component in combination with an alcohol component as having an inherent initial conductivity and an essential oil (col.9, line 27) as the conductivity control component. The essential oil present in an amount that is inherently capable of reducing the initial conductivity (col.4, lines 28-30 and col.9, line 27 and lines 40-42). Furthermore, the Rabe reference discloses an electrostatic dispensing apparatus having the following: a liquid reservoir (col.12, lines 57-58), an electrostatic charging element (col.14, lines 8-10), a voltage source (col.12, lines 59-60) and a dispenser (col.13, lines 20-21).

With respect to claims 2 and 5, the Rabe reference teaches the use of ethanol and propylene glycol (col.5, line 54) such that propylene glycol is at a concentration range of from about 2% weight to about 90% weight (col.5, lines 14-17 and lines 51-53).

With respect to claims 3-4, 11-12 and 17, the Rabe reference teaches adding essential oils (i.e., conductivity control component) in an amount present from about 0.5% weight to about 20% weight (col.4, lines 28-30 and col.9, line 27 and lines 40-42). The conductivity control component of the Rabe reference is inherently capable of providing a conductivity value and/or values that fall within or overlap with the conductivity range recited in claims 3, 12 and 17, because the concentration range of

Art Unit: 1744

the conductivity control component of the Rabe reference overlaps and/or encompasses the conductivity control component ranges disclosed in claims 3, 12 and 17.

With respect to claim 15, Rabe reference discloses a glycol component in combination with an alcohol component (col.5, lines 14-17 and lines 51-53) such that the glycol component is capable of being the solute while the alcohol component is the solvent.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 6-8, 10 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rabe et al (U.S.P.N. 6,531,142) as applied to claims 5, 10, 13 and 1 and further in view of Schroeder et al (U.S.P.N. 5,591,395).

With respect to claims 6 and 10, the Rabe reference teaches the combined use of a glycol component with an ethanol component (col.5, lines 51-53). Since the Rabe's

Art Unit: 1744

concentration range for glycol and ethanol encompasses the ranges recited in the instant claims then the composition of the Rabe reference intrinsically has a viscosity value that falls within the viscosity range recited in claim 10. However, with respect to claims 6 and 10, the Rabe reference fails to teach the use of triethylene glycol. The Schroeder reference, which is in the art of disinfecting air, teaches the use of triethylene glycol (example 2). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the composition of the Rabe reference by substituting propylene glycol for triethylene glycol since triethylene glycol is one of the preferred glycol materials named by the Schroeder reference (col.1, lines 66-67) for its ability to readily generate particles, which form an aerosol suspension in the air at temperatures, which can safely be used in a small consumer appliance (col.1, lines 62-66).

With respect to claims 7-8, the Rabe reference teaches using ethanol (col.5, line 54) at a concentration range of from about 2% weight to about 90% weight (col.5, lines 14-17 and lines 51-53). The Rabe's concentration range for ethanol encompasses the recited concentration range in claim 7. As a result, ethanol in the Rabe's composition is intrinsically capable of providing the disclosed viscosity range in instant claim 8.

With respect to claim 14, the Rabe reference fails to teach providing 3-log reduction in airborne microbial levels. The Schroeder reference teaches that the composition causes a reduction of 3-log in the airborne microbial levels (Examples 1-2). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Rabe reference by choosing triethylene glycol since it

causes a substantial reduction in the amount of airborne bacteria present as taught by the Schroeder reference (col.4, lines 10-17).

7. Claims 16 and 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rabe et al (U.S.P.N. 6,531,142) as applied to claim 1 and further in view of Schroeder et al (U.S.P.N. 5,591,395) and Coffee (U.S.P.N. 6,880,554).

With respect to claim 18, the Rabe reference discloses a method for electrostatically dispensing a disinfecting composition that includes the following: an electrostatically dispensable glycol (col.5, lines 52-54), charging the glycol component with an apparatus (col.12, lines 7-14) having an electrode connected to a voltage source (col.14, lines 4-10) and dispensing the charged glycol (col.13, lines 33-36). However, with respect to claim 18, the Rabe reference fails to teach providing 3-log reduction in airborne microbial levels and the electrostatically dispensing apparatus includes only one electrode. The Schroeder reference teaches that the composition causes a reduction of 3-log in the airborne microbial levels (Examples 1-2). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Rabe reference by choosing triethylene glycol since it causes a substantial reduction in the amount of airborne bacteria present as taught by the Schroeder reference (col.4, lines 10-17).

With respect to claim 18, the Schroeder reference fails to teach an electrostatically dispensing apparatus includes only one electrode. The Coffee reference teaches the use of only one electrode (figure 1:7) connected to a voltage source (figure 1:5). Thus, it would have been obvious to one having ordinary skill in the

art at the time the invention was made to modify the apparatus of the Rabe reference by using only one electrode as taught by the Coffee reference since such a design leads to a one electrode having two surfaces with multiple functions that is capable of fully or partially discharging the liquid comminution (col.2, lines 54-63).

With respect to claim 19, the Rabe reference discloses a composition that includes a glycol component in combination with an alcohol component (col.5, lines 14-17 and lines 51-53) such that the glycol component is capable of being the solute while the alcohol component is the solvent.

With respect to claim 21, teaches adding essential oils (i.e., conductivity control component) in an amount present from about 0.5% weight to about 20% weight (col.4, lines 28-30 and col.9, line 27 and lines 40-42). The conductivity control component of the Rabe reference is intrinsically capable of providing a conductivity value and/or values that fall within or overlap with the conductivity range recited in claim 21, because the concentration range of the conductivity control component of the Rabe reference overlaps and/or encompasses the conductivity control component range disclosed in claim 21.

With respect to claims 16 and 20, the Rabe reference fails to teach the use of triethylene glycol and a dispensation rate greater than about 0.1 grams per hour. The Coffee reference discloses a delivery rate range from 0.1 micro Liter to 500 micro Liter (col.1, lines 66-67 and col.2, lines 1-4) such that upon conversion to grams per hour, the reference delivery rate range values were found to fall within the recited delivery range values. The Coffee reference fails to teach the use of triethylene glycol; however, the

Schroeder reference teaches using triethylene glycol (example 2). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the composition of the Rabe reference by substituting propylene glycol for triethylene glycol since it is one of the preferred glycol materials named by the Schroeder reference (col.1, lines 66-67) for its ability to readily generate particles, which form an aerosol suspension in the air at temperatures, which can safely be used in a small consumer appliance (col.1, lines 62-66).

8. Claims 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coffee (U.S.P.N. 6,105,877) in view of Schroeder et al (U.S.P.N. 5,591,395), Rabe et al (U.S.P.N. 6,531,142) and Bloch (U.S.P.N. 4,071,616).

With respect to claim 22, the Coffee (877) reference teaches a substantially non-aqueous electrostatically dispensable (20, 23 and 24) disinfectant composition (col.9, lines 62-63) that includes a glycol component with intrinsic initial viscosity and initial conductivity, an alcohol component and a conductivity component (col.4, lines 49-50) having a resistivity range, that falls within the range for the conductivity recited (see explanation with respect to claim 3). Further, the Coffee (877) reference discloses a delivery rate range from 0.1 micro Liter to 500 micro Liter (col.2, lines 45-48) such that upon conversion to grams per hour, the reference delivery rate range values were found to fall within the recited delivery range values. The Coffee (877) reference teaches that a glycol component present at 20 weight percent (col.9, line 63) but fails to provide weight percent as recited in claim 22 for triethylene glycol, the alcohol component and the fragrance component. The Schroeder reference uses triethylene glycol at about 10

weight percent (example 2). The Rabe reference teaches adding an amount from 2 weight percent to 90 weight percent of ethanol (col.5, lines 14-16 and line 49). The Bloch reference teaches that the weight percent range for perfume is from 0.25 weight percent to 30 weight percent (col.1, lines 61-62). As a result, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the composition of the Coffee (877) reference to include triethylene glycol at about 10 weight percent for generating lower number of particles compared to dipropylene glycol at 90 weight percent in example 1 and to include ethanol component in an amount between 2 to 90 weight percent since ethanol is a solvent used for concentration makeup and to increase the amount of perfume present in order to release the perfume with a sufficient level so as to be considered satisfactory air freshener.

With respect to claim 23, the Coffee (877) reference teaches a composition that includes ethanol (col.9, line 62) and fragrance (col.4, lines 49-50). Further, the Coffee (877) reference discloses a delivery rate range from 0.1 micro Liter to 500 micro Liter (col.2, lines 45-48) such that upon conversion to grams per hour, the reference delivery rate range values were found to fall within the recited delivery range values. For example, 0.1 micro liter/second in the Coffee (887) reference is equivalent to 0.009 g/hour ($0.1 \text{ g/hr} = 50945 \times 10^{-9}$); 500 micro liter/second in the Coffee (887) reference is equivalent to 1.8 g/hour ($0.03 \text{ ml/sec} = 0.000066058 \text{ lb/sec} = 109 \text{ g/hr} = 108 \text{ g/hr}$).

With respect to claim 24, the coffee (877) reference discloses a composition that includes polyethylene glycol, ethanol and fragrance, but fails to teach the following: the

Art Unit: 1744

use of triethylene glycol, ethanol at about 56 weight percent and fragrance at about 30 weight percent; however, the Schroeder reference uses triethylene glycol in weight percent range from 5% to 100% (col.2, lines 15-19) because of its ability to readily generate an aerosol suspension in the air at safe temperatures for small consumer applications (col.1, lines 62-66), the Rabe reference teaches adding an amount from 2 weight percent to 90 weight percent of ethanol (col.5, lines 14-16 and line 49) such a modification is a matter of routine experimentation and the Bloch reference teaches that the weight percent range for perfume is from 0.25 weight percent to 30 weight percent (col.1, lines 61-62) such that it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the composition of the Coffee (877) reference by increasing the amount of perfume present in order to release the perfume with a sufficient level so as to be considered satisfactory air freshener as taught by the Bloch reference (col.3, lines 50-52).

Remarks

9. The amended drawing submitted on 12/05/2005 has been accepted.

Response to Arguments

10. Applicant's arguments with respect to claims 1-24 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Peltier (U.S.P.N. 5,382,410) reference, which is in the art of

Art Unit: 1744

electrostatic dispensing of disinfectants or deodorants, teaches the use of essential oils and fragrances.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MONZER R. CHORBAJI whose telephone number is (571) 272-1271. The examiner can normally be reached on M-F 6:30-3:00.

13. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, RICHARD D. CRISPINO can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

14. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Monzer R. Chorbaji
Patent Examiner
AU 1744
01/03/2006

MRC

Richard Crispino
RICHARD CRISPINO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700